CLAIMS

1. An optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

2. The optical fiber of Claim 1, wherein said metal is configured in a layer.

3. The optical fiber of Claim 1, wherein said metal is configured as a monolayer.

4. The optical fiber of Claim 3, wherein said metal monolayer is non-linear.

5. The optical fiber of Claim 1, wherein said metal comprises spherical metal particles.

6. The optical fiber of Claim1, wherein said metal is gold.

7. The optical fiber of Claim 1, wherein said metal is selected from the group consisting of silver, tungsten, thoriasol, antimony pentoxide, carbon, red iron oxide, titanium dioxide and platinum.

8. The optical fiber of Claim 1, wherein said fluorescein derivative is selected from the group consisting of difluorofluorescein and diaminofluorescein.

9. A fiberless sensor comprising a fluorescent compound attached to metal, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

10 The fiberless sensor of Claim 9, wherein said metal is configured in a layer.

11. The fiberless sensor of Claim 9, wherein said metal is configured as a monolayer.

12. The fiberless sensor of Claim 11, wherein said metal monolayer is non-linear.

13. The fiberless sensor of Claim 9, wherein said metal comprises spherical metal particles.

14. The fiberless sensor of Claim 9, wherein said metal is gold.

15. The fiberless sensor of Claim 9, wherein said metal is selected from the group consisting of silver, tungsten, thoriasol, antimony pentoxide, carbon, red iron oxide, titanium dioxide and platinum.

16. The fiberless sensor of Claim 9, wherein said fluorescein derivative is selected from the group consisting of difluorofluorescein and diaminofluorescein.

17. A method, comprising:
    a) providing;
        i) a fiber;
        ii) a metal; and
        iii) a fluorescent compound selected from the group consisting of fluorescein and fluorscein derivatives;
    b) treating said fiber and said metal to create a treated fiber, wherein at least a portion of said treated fiber is metal-coated; and
    c) mixing said fluorescent compound with said treated fiber under conditions wherein said fluorescent compound is attached to said metal.

18. The method of Claim 17, further comprising pulling said treated fiber to form an optical tip.

19. The method of Claim 17, wherein said metal is configured in a layer.

20. The method of Claim 17, wherein said metal is configured as a monolayer.

21. The method of Claim 20, wherein said metal monolayer is non-linear.

22. The method of Claim 17, wherein said metal comprises spherical metal particles.

23. The method of Claim 17, wherein said metal is gold.

24. The method of Claim 17, wherein said metal is selected from the group consisting of silver, tungsten, thoriasol, antimony pentoxide, carbon, red iron oxide, titanium dioxide and platinum.

25. The method of Claim 17, wherein said fluorescein derivative is selected from the group consisting of difluorofluorescein and diaminofluorescein.

26. A method, comprising:

a) providing:

i) a metal; and

ii) a fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives; and

b) mixing said fluorescent compound with said metal under conditions wherein said fluorescent compound is attached to said metal.

27. The method of Claim 26, wherein said metal is configured in a layer.

28. The method of Claim 26, wherein said metal is configured as a monolayer.

29. The method of Claim 28, wherein said metal monolayer is non-linear.

30. The method of Claim 26, wherein said metal comprises spherical metal particles.

31. The method of Claim 26, wherein said metal is gold.

32. The method of Claim 26, wherein said metal is selected from the group consisting of silver, tungsten, thoriasol, antimony pentoxide, carbon, red iron oxide, titanium dioxide and platinum.

33. The method of Claim 26, wherein said fluorescein derivative is selected from the group consisting of difluorofluorescein and diaminofluorescein.

34. A method, comprising:

a) providing:

i) a fluorescent sensor capable of detecting nitric oxide, wherein said sensor comprises a metal and a fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives; and

ii) a sample comprising nitric oxide;

b) introducing said sensor into said sample; and

c) measuring fluorescent emission intensity.

35. The method of Claim 34, wherein said sensor further comprises an optical fiber.

36. The method of Claim 34, wherein said sensor is a fiberless sensor.

37. The method of Claim 34, wherein said metal is configured in a layer.

38. The method of Claim 34, wherein said metal is configured as a monolayer.

39. The method of Claim 38, wherein said metal monolayer is non-linear.

40. The method of Claim 34, wherein said metal comprises spherical metal particles.

41. The method of Claim 34, wherein said metal is gold.

43. The method of Claim 35, wherein said metal is selected from the group consisting of silver, tungsten, thoriasol, antimony pentoxide, carbon, red iron oxide, titanium dioxide and platinum.

43. The method of Claim 35, wherein said fluorescein derivative is selected from the group consisting of difluorofluorescein and diaminofluorescein.